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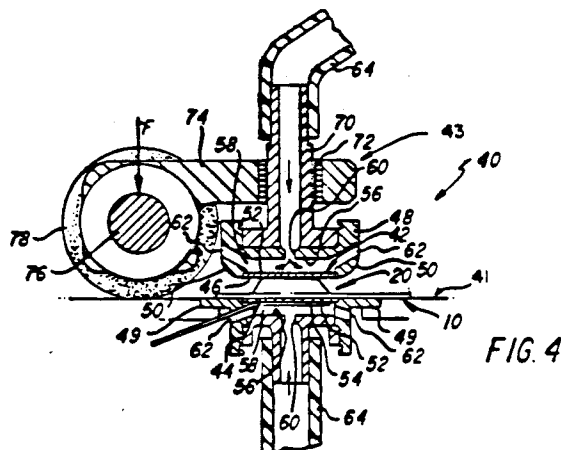
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(54) **Temperature control device and reaction vessel.**

(57) Reaction vessels are known for use in polymerase chain reaction (PCR). However, temperature cycling of such vessels has been both expensive and complicated to implement. Described herein is processing apparatus which overcomes the problems mentioned above. The apparatus features a temperature control device which comprises two surfaces (46) to contact a reaction vessel (10) sandwiched between them. A heater element (54) is disposed on one side of one of the surfaces (46). The heater element (54) is cooled by means of a gas flow through a cavity (58) which is formed above the surface of the heater element (54). The cavity (58) includes an inlet aperture (60) for delivering cooling gas to the cavity (58) and heater element, and an exhaust aperture (62) for venting the air to atmosphere after it has cooled the heater element (54). Most preferably, there is further included

means (76, 78) for providing relative movement between the temperature control device and a reaction vessel (10).

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EUROPEAN SEARCH REPORT

Application Number

EP 90 20 1464

DOCUMENTS CONSIDERED TO BE RELEVANT			
Category	Citation of document with indication, where appropriate, of relevant passages	Relevant to claim	CLASSIFICATION OF THE APPLICATION (Int. Cl.5)
A	US-A-4 038 030 (B. E. ALBRIGHT) * Column 1, line 37 - column 2, line 60; figures *	1,2,13, 15	B 01 L 7/00 B 01 L 3/00
A	US-A-4 473 739 (M.-W. SCHEIWE et al.) * Column 3, lines 35-63 *	1,2,13, 15	
A,D	US-A-4 066 412 (D. R. JOHNSON et al.) * Column 4, line 15 - column 5, line 4; figure 5 *	1,2,13, 15	
P,A	WO-A-8 909 437 (P. D. G. DEAN et al.) * Pages 2-4 *	1,2,7, 13	
A	FR-A-2 612 295 (G. KARCHER et al.)		
A	EP-A-0 171 140 (UNIVERSITY OF TOKYO)		
			TECHNICAL FIELDS SEARCHED (Int. Cl.5)
			B 01 L G 01 N
The present search report has been drawn up for all claims			
Place of search THE HAGUE		Date of completion of the search 21-11-1991	Examiner HODSON C.M.T.
CATEGORY OF CITED DOCUMENTS X : particularly relevant if taken alone Y : particularly relevant if combined with another document of the same category A : technological background O : non-written disclosure P : intermediate document T : theory or principle underlying the invention E : earlier patent document, but published on, or after the filing date D : document cited in the application L : document cited for other reasons & : member of the same patent family, corresponding document			



CLAIMS INCURRING FEES

The present European patent application comprised at the time of filing more than ten claims.

- ☐ All claims fees have been paid within the prescribed time limit. The present European search report has been drawn up for all claims.
- ☐ Only part of the claims fees have been paid within the prescribed time limit. The present European search report has been drawn up for the first ten claims and for those claims for which claims fees have been paid, namely claims:
- ☐ No claims fees have been paid within the prescribed time limit. The present European search report has been drawn up for the first ten claims.

LACK OF UNITY OF INVENTION

The Search Division considers that the present European patent application does not comply with the requirement of unity of invention and relates to several inventions or groups of inventions, namely:

See sheet -B-

- ☐ All further search fees have been paid within the fixed time limit. The present European search report has been drawn up for all claims.
- ☐ Only part of the further search fees have been paid within the fixed time limit. The present European search report has been drawn up for those parts of the European patent application which relate to the inventions in respect of which search fees have been paid.
- namely claims:
- ☒ None of the further search fees has been paid within the fixed time limit. The present European search report has been drawn up for those parts of the European patent application which relate to the invention first mentioned in the claims.

namely claims: 1-7, 13-15



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LACK OF UNITY OF INVENTION

The Search Division considers that the present European patent application does not comply with the requirement of unity of invention and relates to several inventions or groups of inventions, namely:

1. Claims 1-7,13-15 : Thermal processing apparatus with heating, cooling and means for relative movement.
2. Claims 8-12 : Temperature control device with two contact surfaces.